Fundamentals of Linear Algebra and Optimization
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Project 1

Adapt N=5 Case
(C1)

$$b_0^1 = d_0$$
$$b_1^1 = d_1$$
$$b_2^1 = \frac{1}{2}d_1 + \frac{1}{2}d_2$$
$$b_3^1 = \frac{1}{4}b^1 2 + \frac{1}{2}b_1^2 = \frac{1}{4}d_1 + \frac{7}{12}d_2 + \frac{1}{6}d_3$$

(C2)

$$b_0^2 = \frac{1}{2}b_2^1 + \frac{1}{2}b_1^2$$
$$= \frac{1}{4}d_1 + +\frac{7}{12}d_2 + \frac{1}{6}d_3$$
$$b_1^2 = \frac{2}{3}d_2 + \frac{1}{3}d_3$$
$$b_2^2 = \frac{1}{3}d_2 + \frac{2}{3}d_3$$
$$b_3^2 = \frac{1}{2}b^2 2 + \frac{1}{2}b_1^3 = \frac{1}{6}d_2 + \frac{4}{6}d_3 + \frac{1}{6}d_4$$

(C3)

$$b_0^3 = \frac{1}{2}b^2 2 + \frac{1}{2}b_1^3 = \frac{1}{6}d_2 + \frac{4}{6}d_3 + \frac{1}{6}d_4$$
$$b_1^3 = \frac{1}{2}d_3 + \frac{1}{2}d_4$$
$$b_2^3 = d_4$$
$$b_3^3 = d_5$$

Adapt N=4 Case